

Amendments To the Claims:

Please amend the claims as shown. Applicant reserves the right to pursue any cancelled claims at a later date.

1.-6. (cancelled)

7. (new) A pressure transducer, comprising:

a pressure sensor arranged in a housing for converting a measured pressure value into an electrical measuring signal;

a measuring chamber separated from a medium to be measured by a separation membrane, the measuring chamber filled with a pressure transfer fluid for transmitting the pressure to the pressure sensor;

a piezoelectric element arranged in the measuring chamber; and

an evaluation unit for evaluating the electrical measuring signal, the evaluation unit configured to:

compare a characteristic value representing a timely progression of the electrical measuring signal to a reference characteristic value representing a reference timely progression, the timely progression of the electrical measuring signal corresponding to a change in volume; and

output a signal indicating an error based on a difference between the characteristic value and the reference characteristic value, wherein the piezoelectric element is configured to be controlled such that the volume of the measuring chamber can be changed according to a desired predetermined timely volume progression.

8. (new) The pressure transducer according to claim 7, wherein the evaluation unit is configured to output a signal indicating a leak in the separation membrane, the output signal output if a value of the electrical measuring signal undershoots the corresponding characteristic value of the reference timely progression by more than a first predetermined value, the value of the electrical measuring signal measured after a step-shaped volume change and after a

predetermined delay time period has elapsed upon occurrence of the step-shaped volume change, and the measured value of the electrical measuring signal used as the characteristic value.

9. (new) The pressure transducer according to claim 7, wherein the evaluation unit is configured to output a signal indicating debris on the separation membrane, the output signal output if a maximum value of the electrical measuring signal exceeds the corresponding characteristic value of the reference timely progression by more than a second predetermined value, the maximum value of the electrical measuring signal measured after a step-shaped changed in volume, and the measured maximum value used as the characteristic value.

10. (new) The pressure transducer according to claim 7, wherein the evaluation unit is configured to output a signal indicating material erosion of the separation membrane, the output signal output if a maximum value of the electrical measuring signal undershoots the corresponding characteristic value of the reference timely progression by more than a second predetermined value, the maximum value of the electrical measuring signal measured after a step-shaped changed in volume, and the measured maximum value used as the characteristic value.

11. (new) The pressure transducer according to claim 7, wherein the evaluation unit is configured to output a trend statement based on a timely progression of the characteristic value, the timely progression of the characteristic value corresponding to measuring the characteristic value at discrete points in time.

12. (new) The pressure transducer according to claim 7, wherein the piezoelectric element is controlled by the evaluation unit.